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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,987	01/04/2002	Edmund W. Fiegel	1594,CRG	\$730
7590	01/06/2004		EXAMINER TRAN, THAO T	
Cynthia L. Foulke NATIONAL STARCH AND CHEMICAL COMPANY 10 Findeme Avenue Bridgewater, NJ 08807-0500			ART UNIT 1711	
			PAPER NUMBER	

DATE MAILED: 01/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/039,987

Applicant(s)

FIGIEL ET AL.

Examiner

Thao T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This is in response to the Amendment filed on October 27, 2003. The text of those sections not included in this Office action can be found in a prior Office action.
2. Claims 1 and 3-20 are currently pending in this application. Claim 2 has been canceled. Claims 16-20 have been newly added.

### ***Claim Rejections - 35 USC § 112***

3. In view of the prior Office action of April 24, 2003, the rejection of claims 1-15 under 35 U.S.C. 112, first paragraph, has been withdrawn due to the amendment made thereto.
4. In view of the prior Office action of April 24, 2003, the rejection of claims 1-15 under 35 U.S.C. 112, second paragraph, has been withdrawn due to the amendment made thereto.
5. Claims 3-4, 10, 12, 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3, 10, and 19 are indefinite due to the use of "not part of a crosslinked octenyl succinic anhydride-modified starch". It is unclear to the examiner whether Applicants are referring to the octenyl succinic anhydride alone, octenyl succinic anhydride in a non-crosslinked starch carrier, or other forms different from that carried by a crosslinked starch. Specific definition of the octenyl succinic anhydride is required

Claims 10 and 12 are indefinite because the claims recite conflicting limitations with respect to the octenyl succinic anhydride. Claim 10 recites on an octenyl succinic anhydride that “is not part of a crosslinked octenyl succinic anhydride-modified starch”; whereas its dependent claim 12 recites on an octenyl succinic anhydride component comprising “a crosslinked carrier starch”. Clarification on the type of octenyl succinic anhydride is required.

Claim 4 is indefinite due to the use of “the adhesive has been crosslinked”. It is unclear to the examiner when and what part of the adhesive is crosslinked. If Applicants mean to indicate that the adhesive is crosslinked with a crosslinker after the addition of the anhydride, please state so.

*Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e))

7. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Figiel et al. (US Pat. 6,387,475).

Figiel teaches an adhesive composition and method of making, the adhesive composition comprising a water-soluble polymer and a crosslinked or non-crosslinked (such as hydroxypropyl) starch modified with 3% by weight of octenyl succinic anhydride (see col. 3, ln. 44-48; col. 4, ln. 1-15; Examples III, IV; Table I; claims 1-6, 13-20).

In regards to claims 1 and 9, although the reference is silent with respect to the improving set speed of the adhesive, since the reference teaches the same composition, the reference's composition would inherently have the same properties as those in the instantly claimed invention.

In regards to claims 3-4, 10-11, and 19, Figiel teaches the octenyl succinic anhydride being carried by a non-crosslinked starch carrier (OSA-treated waxy corn) and the addition of a crosslinking agent (aluminum sulfate) (see Example IV).

In regards to claims 5, 12, and 20, Figiel teaches the use of crosslinked starch carrier (see col. 3, ln. 48; Example III).

In regards to claims 6, 8, and 16-18, Figiel teaches the adhesive composition is a polymer resin emulsion based adhesive and that polymer includes ethylvinyl acetate and polyvinyl alcohol (see col. 2, ln. 60-63).

In regards to claim 7, Figiel teaches the adhesive being a starch-based adhesive (see Example III)

In regards to claims 13-15, Figiel teaches the adhesive is used in various applications, such as making a coreless paper rolls (see abstract; claims 18-20).

8. Claims 1, 3-4, 7, 9-10, 14-15, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Eden et al. (US Pat. 6,379,447).

Eden teaches an adhesive composition and method of making, the adhesive composition comprising non-crosslinked starch (enzyme treated maltodextrin) modified with 5% by weight of octenyl succinic anhydride (see Example V).

In regards to claims 1 and 9, although the reference is silent with respect to the improving set speed of the adhesive, since the reference teaches the same composition, the reference's composition would inherently have the same properties as those in the instantly claimed invention.

In regards to claim 7, Eden teaches the adhesive composition being starch-based (see Example V).

In regards to claims 13-14, the adhesive is used in various applications, such as making paper laminating (see col. 7, ln. 1-15).

9. Claims 1, 3-5, 7, 9, 10, 12-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Lydzinski et al. (US Pat. 6,280,515).

Lydzinski teaches an adhesive composition and method of making, the adhesive comprising a polysaccharide, such as a crosslinked or non-crosslinked starch modified with 3% by weight of octenyl succinic anhydride (see col. 2, ln. 42-43; Example, claims 1-3, 7).

In regards to claims 1 and 9, although the reference is silent with respect to the improving set speed of the adhesive, since the reference teaches the same composition, the reference's composition would inherently have the same properties as those in the instantly claimed invention.

In regards to claim 7, Lydzinski teaches the adhesive composition being a starch based adhesive, and the composition comprising polyvinyl alcohol (see col. 3, ln. 4; Example; claim 12).

In regards to claims 13-14, Lydzinski teaches the adhesive used in various applications, such as making paper laminating, wood bonding, tissue and towel manufacture (see col. 3, ln. 33-39).

10. Claims 1, 3, 9-10, 14-15, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Nguyen et al. (US Pat. 5,716,441).

Nguyen teaches an adhesive composition and method of making, the adhesive comprising non-crosslinked starch modified by 3% by weight of octenyl succinic anhydride; the adhesive composition is used in various applications such as paper bonding and case and carton (see col. 1, ln. 44-48; col. 4, ln. 7-19; Example 1).

Although the reference is silent with respect to the improving set speed of the adhesive, since the reference teaches the same composition, the reference's composition would inherently have the same properties as those in the instantly claimed invention.

#### *Claim Rejections - 35 USC § 103*

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made

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12. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lydzinski as applied to claim 16 above.

Lydzinski is as set forth in claim 16 above and incorporated herein.

Lydzinski teaches the adhesive composition comprising polyvinyl alcohol (see col. 3, ln. 1-6). The reference further teaches the adhesive composition comprising ethylene vinyl acetate in the prior art (see col. 1, ln. 23-29).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have included ethylene vinyl acetate into Lyndzinski's composition, because the prior art teaches that the use of ethylene vinyl acetate would enhance stability of the adhesive.

#### *Response to Arguments*

13. Applicant's arguments filed on October 27, 2003 have been fully considered but they are not persuasive.

Throughout the Remarks, Applicants contend that none of the references teaches the use of OSA alone. This contention is correct. However, the claim language does not specify the use of OSA alone. Claims 3, 10, and 19 recite, OSA as "not part of a crosslinked octenyl succinic anhydride-modified starch", which is open to OSA as part of other carriers as well as OSA alone. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).



As pointed out in the prior Office action of April 24, 2003 and the paragraphs above, the references of Nguyen and Eden, each teaches the use of a non-crosslinked OSA-modified starch. The references of Fiegel and Lydzinski, each teaches the use of a crosslinked and a non-crosslinked OSA-modified starch. Therefore, all of these references teach the presently claimed invention.

Since the composition of each reference is the same as presently claimed, the references' composition would inherently have the same set speed, unless applicants include other components to distinguish the presently claimed invention from the prior art.

14. In response to applicant's argument that there is no suggestion to add EVA to the polysaccharide adhesives of Lydzinski, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Lydzinski teaches the use of polyvinyl alcohol and other additives commonly used in the art (see col. 3, ln. 1-6). Therefore, it would have been obvious to one of ordinary skill in the art to have added EVA into the adhesive composition of Lydzinski. This is because the use of EVA in resin-based adhesives has been known in the art to increase stability.

15. Hence, Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the

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state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

### *Conclusion*

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

tt

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December 18, 2003

  
RABON SERGENT  
PRIMARY EXAMINER